

19. (Twice Amended) The apparatus of claim 16 further comprising means for marking a point on the first map, the point on the first map being automatically annotated on the second map.

REMARKS

This is in reply to the Examiner's Official Action dated April 24, 2003. Claims 1-6, 8-12, 14-17, 19 and 20 are currently pending. By this Amendment, the specification, and claims 1, 2, 6, 8, 9, 11, 14, 16 and 19 have been amended to more appropriately describe and claim the invention. The above amendment with the following remarks are submitted to be fully responsive to the Official Action. Reconsideration of this application in light of these remarks, and allowance of this application are respectfully requested.

I. Specification

On page 7 of the Official Action, the Examiner objected to the abstract and title of the disclosure because they "are duplicated (sic) of abstract and title of application 09/537[,],849, 09/821[,],638 and 09/537[,],849." According to the Manual for Patent Examining Procedures (MPEP), "where the title is not descriptive of the invention claimed, the examiner should require substitution of a new title that is clearly indicative of the invention to which the claims are directed." MPEP at § 606.01. With respect to abstracts, the MPEP later provides that:

[t]he content of a patent abstract should be such as to enable the reader thereof, regardless of his or her familiarity with patent documents to ascertain quickly the character of the subject matter covered by the technical disclosure and should include that which is new in the art to which the invention pertains.

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(Id. at 606.01(b).) Neither section of the MPEP requires amendment of the title or abstract simply because they are duplicative of a title and/or abstract in another application, particularly since multiple applications may be directed to related subject matter. This is especially true when the applications share a parent-child relationship.

In this case, Applicants respectfully assert that as required by the MPEP, the title is descriptive of the invention as claimed, and the abstract enables a reader to ascertain the character of the subject matter covered by the technical disclosure and generally includes that which is new in the art to which the invention pertains. Applicants have, however, amended the abstract to more closely reflect the subject matter covered by the technical disclosure. Therefore, Applicants request that the Examiner reconsider and withdraw his objection to the title and abstract.

Applicants have also corrected minor grammatical errors in the specification.

II. Rejection of Claims Under 35 U.S.C. § 102(b)

On page 7 of the Official Action, the Examiner rejected claims 1-19¹ under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 5,848,373 to DeLorme et al. (hereinafter, DeLorme). According to the Examiner, DeLorme teaches:

In Fig. 6, (first and second maps) a view of the CAMLS system with desktop PC or workstation programmed for printing strip maps or "trip tickets" showing proposed routes of travel from a point of origin to a destination. DeLorme teaches in (col. 42, lines 34-51) conversion routines for raster data, symbols & annotations an array of conversion routines for conversion of raster data consisting of mapping graphics and related text, derived from input devices such as scanned in paper maps, message pads, digitizing tables, graphics and CAD programs, fax and wireless data transmissions into standard CAMLS data structures.

¹ As previously noted, claims 1-6, 8-12, 14-17, 19, and 20 are pending. Further, in his discussion of the rejection, the Examiner refers to claim 20.

(Official Action of April 24, 2003 at page 7.) (Emphasis in original.) The Examiner rejected independent claims 11 and 16 for reasons identical to those set forth in rejecting claim 1. Applicants disagree with the Examiner's characterization of the prior art, and therefore traverse the Examiner's rejection of independent claims 1, 11 and 16.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." MPEP § 2131. DeLorme does not disclose each and every element of any of these claims.

Claim 1 recites a method for georeferencing a raster map, comprising: displaying a first map in one area of a display, said first map being a digital raster map; displaying a second map in a second area of the display, the second map being a georeferenced map that displays at least a portion of an identical geographic region displayed in the raster map; annotating a point on the first map; annotating a point on the second map, wherein the point annotated on the second map corresponds to the point annotated on the first map; assigning a geographic coordinate associated with the annotated point on the second map to the annotated point on the first map; and repeating annotating a point on the first map, annotating a point on the second map, and assigning a geographic coordinate at least a second time.

The Examiner does not argue, and DeLorme does not teach, disclose or suggest "annotating a point on the second map, wherein the point annotated on the second map corresponds to the point annotated on the first map," as recited in claim 1. In contrast, in DeLorme:

[t]he user enters current location and proposed destination. Alternatively, with a GPS receiver and capability, the current location of the user is derived from GPS data and the user enters a proposed destination. The user location and proposed destination are displayed on an appropriate

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grid quadrangle on the graphics display window of the PDA for correlation with locations depicted in detail on a corresponding printed map. The grid quadrangle is selected at an appropriate grid level to encompass both current location and proposed destination. The user then asks for a proposed route or alternate routes to the destination which may be derived from a database of routes, e.g. on a supplemental memory device.

(DeLorme at col. 22, line 67 - col. 23, line 12.) (Emphasis added.)

In other words, a user enters a current location and a proposed destination, and then queries the system for a route from the current location to the proposed destination.

According to the Examiner, DeLorme teaches "in Fig. 6 (first and second maps) a view of the CAMLS system with desktop PC or workstation programmed for printing strip maps or 'trip tickets' showing proposed routes of travel from a point of origin to a destination." (April 24, 2003 Official Action at page 7.) (Emphasis in original) The first and second maps depicted in FIG. 6 appear to be the grid quadrangle of a map (on left side of the computer screen) and an image of a trip ticket (on the right side of the screen). Neither this portion, nor any other in DeLorme teach a method wherein a user annotates a point on a second map, wherein the point annotated on the second map corresponds to a point annotated on a first map.

Independent claim 11 is directed to a computer readable medium containing instructions executable by a computer including features generally corresponding to those of claim 1 and patentably distinguishing over DeLorme for the same reasons as explained for claim 1.

Similarly, claim 16 is directed to an apparatus for georeferencing a raster map including features generally corresponding to those of claim 1 and patentably distinguishing over DeLorme for the same reasons as explained for claim 1.

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For the above reason, claims 1, 11 and 16 are patentable over DeLorme. Claims 2-6, 8-10, 12, 14, 15, 17, 19 and 20 are at least patentable based on their dependency from one of claims 1, 11 and 16.

If the Examiner continues to maintain that the above elements are disclosed in DeLorme, Applicants respectfully request the Examiner to particularly point out where each of the claimed features are disclosed so that Applicants may have the opportunity to reply completely. See 37 CFR 1.104 ("When a reference is complex . . . the particular part relied on must be designated as nearly as practicable."); MPEP 706 ("The goal of examination is to clearly articulate any rejection early in the prosecution process so that the applicant has the opportunity to provide evidence of patentability and otherwise reply completely at the earliest opportunity.")

III. Rejection of Claims Under 35 U.S.C. § 112

On page 13 of the Official Action, the Examiner rejected claim 9 under 35 U.S.C. § 112, first paragraph, "as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. For the reasons stated below, Applicants traverse the Examiner's rejection of claim 9 under 35 U.S.C. § 112, first paragraph.

In rejecting claim 9, the Examiner states that "Applicant[s] should provide a complete illustration of how a correction of the reproduced point is received. . ." In response, Applicants respectfully refer the Examiner to Applicants' Specification which provides that:

when the user marks a georeferencing point on one of the maps, then the system automatically marks the corresponding point on the other map,

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based on its current georeferencing function (step 420). The user can then make corrections to the location of a point marked by the system in this way (step 425).

(Applicants' Specification at page 9, line 27 - page 10, line 3.) (Emphasis added)

As stated, when the user marks a georeferencing point on one of the maps, the system may then automatically mark the corresponding point on the other map. The user can then make corrections to the location of a point automatically marked by the system. The process of moving or deleting a mark designated by a user is an operation that may be carried out by one or more appropriately programmed standard commercially available computers. The nature of the program is within the capability of persons of ordinary skill in the art (see e.g., U.S. Patent No. 4,899,136 to Beard et al., Issued: February 6, 1990), and therefore, need not be explained more fully beyond the comments made in the specification. Moreover, Applicants do not intend to limit the present invention to any particular system or method of making the corrections of the annotated point (striketrough, deletion/insertion, move, etc.) Therefore, it is clear that one of skill in the art could make or use the invention as recited in claim 9, from the disclosure in Applicant's specification coupled with information known in the art. Since the scope of claim 9 is adequately enabled by the specification and prior art, the rejection of claim 9 under 35 U.S.C. §112, first paragraph should be withdrawn.

The Examiner also argues that there is insufficient antecedent basis for the limitation "reproduced" in claims 8, 9, 14 and 19. Applicants have therefore replaced "reproduced" with "annotated" in claims 8, 9, 14 and 19. It is therefore respectfully asserted that there is sufficient antecedent basis for all the limitations in the claims.

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IV. Conclusion

In view of the foregoing, it is submitted that the cited prior art fails to teach or suggest the Applicants' invention. Therefore, it is respectfully asserted that the present application is in condition for allowance and a notice to that effect is respectfully requested. However, if the Examiner deems that any issue remains after considering this response, he is invited to call the undersigned to expedite the prosecution and work out any such issue by telephone.

Applicants respectfully request that this amendment be entered by the Examiner, placing claims 1-6, 8-12, 14-17, 19 and 20 in condition for allowance. Applicants submit that the proposed amendments to claims 1, 2, 6, 8, 9, 11, 14, 16 and 19 do not raise new issues or necessitate the undertaking of any additional search of the art by the Examiner, since all of the elements and their relationships claimed were either earlier claimed or inherent in the claims as examined. Therefore, this amendment should allow for immediate action by the Examiner.

Furthermore, Applicants respectfully point out that the final action by the Examiner presented some new arguments as to the application of the art against Applicants' invention. It is respectfully submitted that the entering of this amendment would allow the Applicants to reply to the final rejections and place the application in condition for allowance.

Finally, Applicants submit that the entry of the amendment would place the application in better form for appeal, should the Examiner dispute the patentability of the pending claims.

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In view of the foregoing remarks, Applicants submit that this claimed invention, as amended, is neither anticipated nor rendered obvious in view of the prior art references cited against this application. Applicants therefore request the entry of this amendment, the Examiner's reconsideration and reexamination of the application, and the timely allowance of the pending claims.

Attached hereto is a marked-up version of the changes made to the claims by this amendment. The attached page is captioned "**Version with markings to show changes made.**" Deletions appear as normal text surrounded by [] and additions appear as underlined text.

If any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this response, and not requested by attachment, such extension is hereby requested. If there are any fees due under 37 C.F.R. § 1.16 or 1.17 that are not enclosed, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge those fees to our deposit account 06-0916.

Respectfully submitted,

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GARRETT & DUNNER, L.L.P.

Dated: July 14, 2003

By: 

Leonard Smith, Jr.
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VERSION WITH MARKINGS TO SHOW CHANGES MADE**IN THE SPECIFICATION:**

Please amend the last paragraph on page 13 of the specification to read as follows:

These systems can be easily solved by well-known methods, such as Gaussian Elimination or LU factorization. The solutions yield the desired values of \hat{a}_{11} , \hat{a}_{12} , \hat{a}_{21} , \hat{a}_{22} , \hat{b}_1 , and \hat{b}_2 . It should be noted that equations (5a) and (5b) do not have a unique solution unless three or more non-colinear points are contained in A. Generally speaking, then, it requires 3 points to choose a georeferencing function from the family of general linear transformations. When there are four points or more, it is possible to compute a standard deviation of errors using the formula:

$$s = \sqrt{\frac{\sum_{i \in A} \left[(\hat{a}_{11}x_i + \hat{a}_{12}y_i + \hat{b}_1 - Lon_i)^2 + (\hat{a}_{21}x_i + \hat{b}_2 - Lat_i)^2 \right]}{n - 3}} \quad (6)$$

$$s = \sqrt{\frac{\sum_{i \in A} \left[(\hat{a}_{11}x_i + \hat{a}_{12}y_i + \hat{b}_1 - Lon_i)^2 + (\hat{a}_{21}x_i + \hat{a}_{22}y_i + \hat{b}_2 - Lat_i)^2 \right]}{n - 3}} \quad (6)$$

where s is an estimator for the amount of error to be expected between actual and predicted latitude and longitude values.

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IN THE ABSTRACT:

Please delete the Abstract in its entirety and replace it with the following new Abstract.

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ABSTRACT

A method, computer-readable medium and apparatus for georeferencing a raster map. A first map is displayed in one area of a display, wherein the first map is a digital raster map. A second map is displayed in a second area of the display, wherein the second map is a georeferenced map that displays at least a portion of an identical geographic region displayed in the raster map. A user selects a point on the first map, and then selects a point on the second map, wherein the point selected on the second map corresponds to the point selected on the first map. Next, a geographic coordinate associated with the point selected on the second map is assigned to the corresponding point selected on the first map. These operations are repeated, i.e., selecting a point on the first map, selecting a point on the second map and assigning a geographic coordinate at least a second time.

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IN THE CLAIMS:

Please amend claims 1, 2, 6, 8, 9, 11, 14, 16 and 19 as follows:

1. (Twice Amended) A method of georeferencing a raster map, comprising:
displaying a first map in one area of a display, said first map being a digital raster map;

displaying a second map in a second area of the display, the second map being a georeferenced map that displays at least a portion of an identical geographic region displayed in the raster map;

[selecting] annotating [at least two points] a point on the first map; [and]

[selecting] annotating [at least two points] a point on the second map,

wherein the [each] point [selected] annotated on the second map corresponds to

[a] the point [selected] annotated on the first map; [and]

assigning a geographic coordinate associated with [each selected] the annotated point on the second map to [each corresponding] the annotated point on the first map; and

repeating annotating a point on the first map, annotating a point on the second map, and assigning a geographic coordinate at least a second time.

2. (Twice Amended) The method of claim 1 further comprising receiving a verification that a point [selected] annotated on the first map is correctly associated with the corresponding point [selected] annotated on the second map.

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6. (Twice Amended) The method of claim 1 further comprising generating a georeferencing function to output a geographic coordinate for each successive point [selected] annotated on the first map.

8. (Amended) The method of claim 1 further comprising [the act of] receiving a mark on a point on the first map, the point on the first map being automatically [reproduced] annotated on the second map.

9. (Twice Amended) The method of claim 8 further comprising receiving a correction of the [reproduced] automatically annotated point.

11. (Twice Amended) A computer readable medium containing instructions executable by a computer to [georeference] perform a method for georeferencing a raster map, the method comprising:

displaying a first map in one area of a display, said first map being a digital raster map;

displaying a second map in a second area of the display, the second map being a georeferenced map that displays at least a portion of an identical geographic region displayed in the raster map;

[selecting] annotating [at least two points] a point on the first map; [and]

[selecting] annotating [at least two points] a point on the second map, wherein the [each] point [selected] annotated on the second map corresponds to [a] the point [selected] annotated on the first map; [and]

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assigning a geographic coordinate associated with [each selected] the annotated point on the second map to [each corresponding] the annotated point on the first map; and

repeating annotating a point on the first map, annotating a point on the second map, and assigning a geographic coordinate at least a second time.

14. (Amended) The computer readable medium of claim 11, wherein the contents of the computer-readable medium are also capable of allowing a user to mark a point on the first map, the [point] mark on the first map being automatically [reproduced] annotated on the second map.

16. (Twice Amended) An apparatus for georeferencing a raster map, comprising:

means for displaying a first map in one area of a display, said first map being a digital raster map;

means for displaying a second map in a second area of the display, the second map being a georeferenced map that displays at least a portion of an identical geographic region displayed in the raster map;

means for [selecting] annotating [at least two points] a point on the first map; [and]

means for [selecting] annotating [at least two points] a point on the second map, wherein the [each] point [selected] annotated on the second map corresponds to [a] the point [selected] annotated on the first map; [and]

means for assigning a geographic coordinate associated with [each selected] the annotated point on the second map to [each corresponding] the annotated point on the first map; and

means for repeating annotating a point on the first map, annotating a point on the second map, and assigning a geographic coordinate at least a second time.

19. (Twice Amended) The apparatus of claim 16 further comprising means for marking a point on the first map, the point on the first map being automatically [reproduced] annotated on the second map.

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